

CLAIMS

The embodiments of the invention in which an exclusive property or right is claimed are defined as follows. Having thus described the invention

5 what is claimed is:

1. A cable actuated emergency stop system, comprising:

a housing structure within which a single shaft assembly can be
10 maintained for engaging at least one cable;

a single shaft assembly that can be attached to said at least one cable, wherein said single shaft assembly comprises only one shaft that is slideably disposed within said housing structure and movable relative to said
15 housing structure along a long a single path in a direction parallel to an axial centerline of said shaft in response to a force exerted by said at least one cable attached to at least one end of said shaft.

2. The system of claim 1 wherein said housing structure comprises at
20 least one window for viewing if at least one cable is in proper tension within said housing structure.

3. The system of claim 1 further comprising a mechanical trip indicator located within said housing structure, wherein said mechanical trip indicator
25 permits a user to detect if said single shaft assembly has been tripped or is in an active position thereof.

4. The system of claim 1 further comprising at least one electrical switching mechanism maintained within said housing, wherein said at least
30 one electrical switching mechanism comprises at least one switch.

5. The system of claim 4 further comprising a snap-action mechanism

that prevents said at least one electrical switching mechanism from being teased.

6. The system of claim 1 wherein said single shaft assembly further
5 comprises a return spring which engages said shaft, such that said shaft and
said return spring are retained within said housing structure utilizing a
threaded bushing.

7. The system of claim 1 wherein said single shaft assembly further
10 comprises at least one retaining ring for retaining a cam inserted into said
shaft, such that said cam is fixed to an end of said shaft and restrained from
rotating.

8. The system of claim 1 further comprising a plunger mechanism
15 comprising at least one plunger, a carrier and a plurality of compression
springs assembled to respective pivot shafts thereof, such that opposite
ends of said respective pivot shafts pivot on said carrier.

9. The system of claim 8 wherein said plurality of compression springs
20 are positioned at angle to said at least one plunger to promote a snap-over
action thereof.

10. A cable actuated emergency stop system, comprising:

25 a housing structure within which a single shaft assembly can be
maintained for engaging at least one cable, wherein said housing structure
comprises at least one window for viewing if said at least one cable is in
proper tension within said housing structure;

30 a single shaft assembly that can be attached to said at least one
cable, wherein said single shaft assembly comprises only one shaft that is
slideably disposed within said housing structure and movable relative to said

housing structure along a single path in a direction parallel to an axial centerline of said shaft in response to a force exerted by said at least one cable attached to at least one end of said shaft;

5 a mechanical trip indicator located within said housing structure, wherein said mechanical trip indicator permits a user to detect if said single shaft assembly has been tripped or is in an active position thereof; and

10 at least one electrical switching mechanism maintained within said housing, wherein said at least one electrical switching mechanism comprises at least one switch.

11. A method for configuring a single directional cable actuated emergency stop device, said method comprising the steps of:

15 providing a housing structure within which a single shaft assembly can be maintained for engaging at least one cable;

20 attaching a single shaft assembly to said at least one cable, wherein said single shaft assembly comprises only one shaft that is slideably disposed within said housing structure and movable relative to said housing structure along a single path in a direction parallel to an axial centerline of said shaft in response to a force exerted by said at least one cable attached to at least one end of said shaft to thereby form a single directional cable

25 actuated emergency stop device.

12. The method of claim 11 further comprising step of configuring said housing structure to comprise at least one window for viewing if at least one cable is in proper tension within said housing structure.

30 13. The method of claim 11 further comprising the step of locating a mechanical trip indicator within said housing structure, wherein said

mechanical trip indicator permits a user to detect if said single shaft assembly has been tripped or is in an active position thereof.

14. The method of claim 11 further comprising the step of maintaining at 5 least one electrical switching mechanism within said housing, wherein said at least one electrical switching mechanism comprises at least one switch.

15. The method of claim 14 further comprising the step of providing a snap-action mechanism that prevents said at least one electrical switching 10 mechanism from being teased.

16. The method of claim 11 further comprising the step of configuring said single shaft assembly to further comprise a return spring which engages said shaft, such that said shaft and said return spring are retained within said 15 housing structure utilizing a threaded bushing.

17. The method of claim 11 further comprising the step of configuring said single shaft assembly to further comprise at least one retaining ring for retaining a cam inserted into said shaft, such that said cam is fixed to an end 20 of said shaft and restrained from rotating.

18. The method of claim 11 further comprising the step of providing a plunger mechanism comprising at least one plunger, a carrier and a plurality of compression springs assembled to respective pivot shafts thereof, such 25 that opposite ends of said respective pivot shafts pivot on said carrier.

19. The method of claim 18 further comprising the step of positioning said plurality of compression springs at an angle to said at least one plunger to promote a snap-over action thereof.

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20. The method of claim 11 further comprising the step of adapting said a single directional cable actuated' emergency stop device for utilizing with a

cable conveyor belt system.